

Translation

PATENT COOPERATION TREATY

PCT/DE2003/00093



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference tex03pct	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/000932	International filing date (day/month/year) 19 March 2003 (19.03.2003)	Priority date (day/month/year) 23 April 2002 (23.04.2002)
International Patent Classification (IPC) or national classification and IPC F16B 39/24		
Applicant TEXTRON VERBINDUNGSTECHNIK GMBH & CO. OHG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 14 November 2003 (14.11.2003)	Date of completion of this report 07 July 2004 (07.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/000932

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

the international application as originally filed  
 the description:

pages \_\_\_\_\_ 1-5 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

the claims:

pages \_\_\_\_\_ \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19)  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ 1-3 \_\_\_\_\_, filed with the letter of 22 May 2004 (22.05.2004)

the drawings:

pages \_\_\_\_\_ 1/1 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

the sequence listing part of the description:

pages \_\_\_\_\_ \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_ \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).  
 the language of publication of the international application (under Rule 48.3(b)).  
 the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in written form.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority in written form.  
 furnished subsequently to this Authority in computer readable form.  
 The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
 The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, Nos. \_\_\_\_\_  
 the drawings, sheets/fig \_\_\_\_\_

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1 - 3	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 3	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 3	YES
	Claims		NO

## 2. Citations and explanations

## 1. Reference is made to the following documents:

D1: DE 1 129 779 B

D2: US 3 332 464 A

## 2. Document D2, which is considered the prior art closest to the subject matter of claim 1, discloses (the references between parentheses refer to said document) :

- a self-locking fastening device comprising a screw (16) suitable for fastening at least a first component to another component,
- said fastening device having a washer (10) provided with a central hole,
- said washer being provided on one of its two surfaces with serrations (15) which, when the fastening device is tightened, become fixed in or on the surface of the screw so as to prevent the latter from coming loose of its own accord (see column 4, lines 4-7)
- and being resilient in design such that, when the fastening device is tightened, it can be compressed against its resilient force owing to its curvature, wherein the concave side faces towards the component and the convex side faces

towards the head of the screw (see column 4, lines 7ff.; fig. 3), and wherein

- the serrations on the surface facing the screw are arranged in the inner region close to the hole (see figure 2).

The subject matter of claim 1 differs therefrom in that the washer is provided, on the side facing the component, with further serrations arranged in the outer region close to the outer edge, both groups of serrations extending across between half and two thirds of the radial width of the washer.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

Together, the differentiating features additionally secure the screw against coming loose of its own accord, whilst avoiding undue damage to the surfaces, in particular the surface of the component.

The problem addressed by the present invention can therefore be considered that of increasing the reliability of the fastening device whilst enabling the screw to be tightened in a non-damaging manner.

None of the international search report citations suggests such a solution.

To further secure the screw against coming loose, D2 proposes that the outer edge be provided with points or spikes (see column 4, lines 35-40; figures 1-3). However, this can cause serious damage to the component. The document thus leads away from the

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present invention.

D1 discloses a washer having two serrations which extend, however, across the entire width of the washer. In contrast to the invention, the solution shown in said document involves leaving the bearing edges free of teeth. This is intended to limit damage caused to the workpiece surface by having the profiled teeth engage as late as possible during tightening.

The solution proposed in claim 1 of the present application therefore also involves an inventive step (PCT Article 33(3)).

3. **Claims 2 and 3** are dependent on claim 1 and therefore likewise meet the PCT novelty and inventive step requirements.